

Zion Landfill

Zion, Illinois

Surface Emissions Monitoring

1st Quarter 2015 Report

Prepared By:



American Environmental Group
3600 Brecksville Road
Richfield, Ohio 44286
(330) 659-5930



April 15, 2015

Advanced Disposal
Zion Landfill
Jim Lewis
701 Green Bay Road
Zion, IL 60099

RE: Advanced Disposal Zion Landfill – 1st Quarter 2015 NSPS Surface Scan

Dear Mr. Lewis,

American Environmental Group (AEG) prepared the enclosed report documenting the results of the 1st Quarter 2015 NSPS surface scan at Advanced Disposal Zion Landfill. The initial monitoring event was performed on March 25, 2015. We noted no (0) exceedances of the 500 parts per million methane by volume (ppm) standard at the facility during the initial scan event.

In summary, the site met the NSPS standards for surface emissions for the 1st Quarter 2015 Surface Scan event, and no further action is required. Field monitoring forms are attached for your files.

Weather Conditions

Weather conditions recorded during the monitoring events were as follows:

March 25, 2015:

- Temperature approximately 37° Fahrenheit
- Relative humidity of 85 percent
- Barometric pressure of 29.88”Hg
- Wind West southwest at about 9 mph
- Overcast skies

In accordance with NSPS regulations, these monitoring events were performed during typical meteorological conditions.

The survey was conducted in accordance with the regulations set forth in the New Source Performance Standard (NSPS), 40 CFR 60.755 (c) and (d); (2) 40 CFR 60, 40 CFR 60.753(d) - Surface Scan Requirements, Appendix A – Method 21. A Photovac (MicroFID) was used to perform the emissions monitoring. During the event, attention was given to monitoring unusual cover conditions (stressed vegetation, cracks, seeps, etc.) and areas with unusual odors. The MicroFID was calibrated at the beginning of each day, prior to performing the monitoring, in accordance with Method 21 compliance requirements. Calibration logs were completed by the field technician performing the work, and are included in Attachment A. During the monitoring event, AEG observed that the ground surface appeared to be in good condition overall and there were no unusual odors noted. Results are presented in the attached forms.

Please call Dave Ovanek at (815) 671-0203 if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Pam Nyiri".

Pam Nyiri
Environmental Data Coordinator III
American Environmental Group, Ltd.

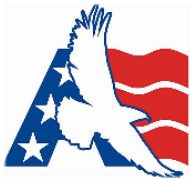
On Behalf of
Dave Ovanek
Project Manager
American Environmental Group, Ltd.

Attachments: Attachment A: Daily Calibration Logs
Attachment B: Daily Surface Monitoring Log
Attachment C: Site Drawing

Cc: Jim Hitzeroth, Republic Services, Inc – Electronic



**DAILY CALIBRATION LOGS
ATTACHMENT A**



CALIBRATION PRECISION TEST RECORD

Initial Event: 1st Quarter 2015

LANDFILL NAME: ADS - Zion EVENT: 1st Quarter 2015

INSTRUMENT MAKE: Photovac MODEL: MicroFID SERIAL #: CZNE312

PERFORMED BY: Mario Nunez TIME: 8:35 DATE: March 25, 2015

Calibration Gas Standard: 500ppm CH₄

MEASUREMENT # 1:

Meter Reading for Zero Air: 0.0 ppm (1)

Meter Reading for Calibration Gas: 499.0 ppm (2)

MEASUREMENT # 2:

Meter Reading for Zero Air: 0.0 ppm (3)

Meter Reading for Calibration Gas: 500.1 ppm (4)

MEASUREMENT # 3:

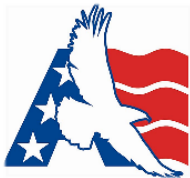
Meter Reading for Zero Air: 0.0 ppm (5)

Meter Reading for Calibration Gas: 500.5 ppm (6)

CALCULATE PRECISION:

Must be less than 10%

$$\frac{|500 - (2)| + |500 - (4)| + |500 - (6)|}{3} \times \frac{1}{500} \times \frac{100}{1} = \underline{0.107\%}$$



INSTRUMENT RESPONSE TIME TEST RECORD

Initial Event: 1st Quarter 2015

LANDFILL NAME: ADS - Zion EVENT: 1st Quarter 2015

INSTRUMENT MAKE: Photovac MODEL: MicroFID SERIAL #: CZNE312

PERFORMED BY: Mario Nunez TIME: 9:05 DATE: March 25, 2015

MEASUREMENT # 1:

Stabilized Reading Using Calibration Gas: 499.0 ppm
90% of the Stabilized Reading: 449.1 ppm
Time to Reach 90% of Stabilized reading after switching
from Zero Air to Calibration Gas: 8.0 seconds (1)

MEASUREMENT # 2:

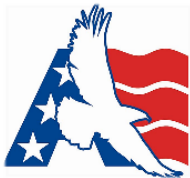
Stabilized Reading Using Calibration Gas: 500.0 ppm
90% of the Stabilized Reading: 450.0 ppm
Time to Reach 90% of Stabilized reading after switching
from Zero Air to Calibration Gas: 9.0 seconds (2)

MEASUREMENT # 3:

Stabilized Reading Using Calibration Gas: 498.0 ppm
90% of the Stabilized Reading: 448.2 ppm
Time to Reach 90% of Stabilized reading after switching
from Zero Air to Calibration Gas: 7.0 seconds (3)

CALCULATE RESPONSE TIME:

Must be less than 30 seconds
$$\frac{(1) + (2) + (3)}{3} = \underline{8.000} \text{ seconds}$$



CALIBRATION PROCEDURE & BACKGROUND DETERMINATION REPORT

Initial Event: 1st Quarter 2015

LANDFILL NAME: ADS - Zion EVENT: 1st Quarter 2015

INSTRUMENT MAKE: Photovac MODEL: MicroFID SERIAL #: CZNE312

PERFORMED BY: Mario Nunez TIME: 9:15 DATE: March 25, 2015

CALIBRATION PROCEDURE

1. Allow instrument to internally zero itself while introducing zero air.
2. Introduce the calibration gas into the probe.
Stable Reading = 500.9
3. Adjust meter to read 500 ppm.

BACKGROUND DETERMINATION PROCEDURE

1. Upwind Reading (highest in 30 seconds):

Location: Near GMP-05 0.0 ppm (1)

2. Downwind Reading (highest in 30 seconds):

Location: Near Maintenance building 0.0 ppm (2)

CALCULATE BACKGROUND VALUE

$$\frac{(1) + (2)}{2} = \underline{0.0} \text{ ppm}$$



**DAILY SURFACE MONITORING LOGS
ATTACHMENT B**

Individual Monitoring Exceedance
Surface Monitoring Design Plan

Use this form to record an individual monitoring exceedance and follow-up monitoring activities.

This form is only used when a reading of 500 ppm above background is encountered during the surface monitoring.

Use a separate form for each initial exceedance.

Initial Monitoring Exceedance: #1

No Exceedances

Date: _____ Time: _____ am/pm Monitoring Technician Initials: _____
Instrument reading - Background reading: _____ ppm - _____ ppm = _____ **0** ppm

Location of monitored exceedance (include description of field marker used): _____

Describe cover maintenance or adjustments to the vacuum of adjacent wells to increase gas collection in vicinity of measured exceedance before remonitoring in 10 days: _____

Remonitor location within 10 calendar days of initial exceedance:

Date: _____ Time: _____ am/pm Monitoring Technician Initials: _____
Instrument reading - Background reading: _____ ppm - _____ ppm = _____ ppm

If 10 day remonitoring shows an exceedance, describe additional corrective action taken before remonitoring again within 10 days: _____

If the 10 day remonitoring is <500 ppm, remonitor **1 month** from initial exceedance:

Date: _____ Time: _____ am/pm Monitoring Technician Initials: _____
Instrument reading - Background reading: _____ ppm - _____ ppm = _____ ppm

If the 1 month remonitoring is <500 ppm, resume normal quarterly monitoring.

If the 1 month remonitoring shows an exceedance, describe additional corrective action taken before remonitoring again within 10 days: _____

Remonitor location within 10 calendar days of 2nd exceedance:

Date: _____ Time: _____ am/pm Monitoring Technician Initials: _____
Instrument reading - Background reading: _____ ppm - _____ ppm = _____ ppm

If the 10 day remonitoring is <500 ppm, remonitor 1 month from initial exceedance:

Date: _____ Time: _____ am/pm Monitoring Technician Initials: _____
Instrument reading - Background reading: _____ ppm - _____ ppm = _____ ppm

If the 1 month remonitoring is <500 ppm, resume normal quarterly monitoring.

If the 1 month remonitoring shows an exceedance, describe additional corrective action taken before remonitoring again within 10 days: _____

(use additional forms if necessary)*

*If monitoring shows 3 exceedances within a quarterly period a new well or other collection device must be installed within 120 days of initial exceedance or alternative remedies/timelines may be submitted to the Administrator for approval. Further monitoring is not necessary until the remedy is completed. The 3 exceedances do **not** have to be consecutive.

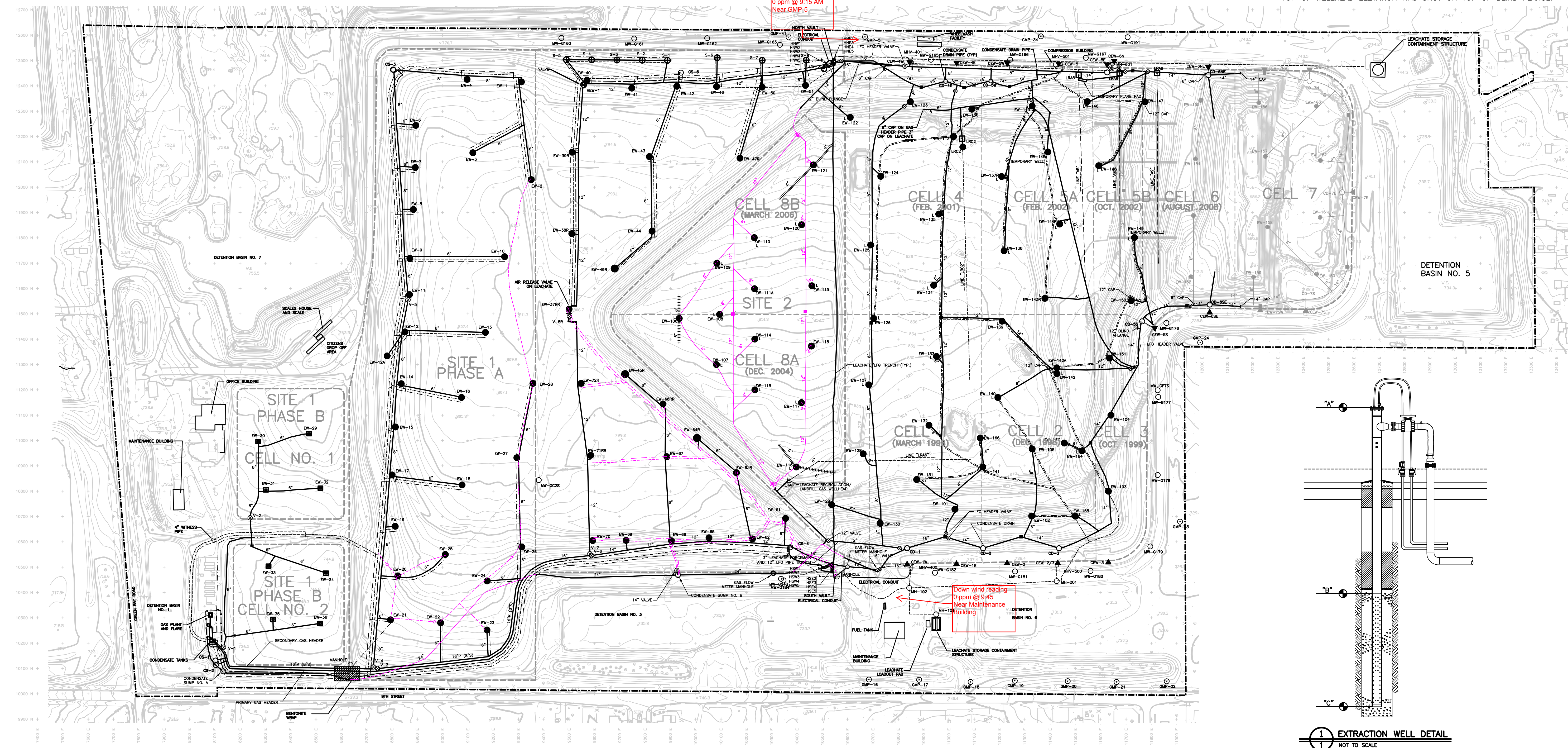


SITE DRAWING

ATTACHMENT C

Q:\Project Data\VEOLIA\Zion\Site-Gas\Master Gas Plan\Master Gas Plan.dwg 2/22/2011 7:37 AM BU Bach

AS-BUILT GAS EXTRACTION WELL SCHEDULE																													
Well Number	Northing (feet)	Easting (feet)	Top of Wellhead Elev. "A"	Top of Wellhead 12/2/2010	Difference (+/-)	Top of Screen Elev. "B"	Bottom of Screen Elev. "C"	Depth to Bottom of Screen (feet)	Depth to Silt (feet)	Well Number	Northing (feet)	Easting (feet)	Top of Wellhead Elev. "A"	Top of Wellhead 12/2/2010	Difference (+/-)	Top of Screen Elev. "B"	Bottom of Screen Elev. "C"	Depth to Bottom of Screen (feet)	Depth to Silt (feet)	Well Number	Northing (feet)	Easting (feet)	Top of Wellhead Elev. "A"	Top of Wellhead 12/2/2010	Difference (+/-)	Top of Screen Elev. "B"	Bottom of Screen Elev. "C"	Depth to Bottom of Screen (feet)	Depth to Silt (feet)
EW-1	12416	9311	793.52			774.3	750.4	43.12		EW-43	12121	9817	800.72			781.3	734.8	65.92		EW-123	12338	10848	791.17	789.00	-2.17	766.40	715.20	75.97	
EW-2	12031	9350	805.66			781.2	748.4	57.26		EW-44	11827	9827	806.10			781.1	736.4	69.70		EW-124	12043	10731	831.44	824.87	-6.57	811.44	738.94	90.00	
EW-3	12137	9119	809.87			780.3	747.6	62.27		EW-45R	11261	9720	809.87			787.4	734.6	75.27		EW-125	11772	10691	842.1	838.84	-3.26	822.10	755.10	87.00	
EW-4	12426	9097	792.24			773.7	750.9	41.34		EW-46	12398	10082	779.57			763.3	733.6	45.97		EW-126	11482	10703	853.69	843.93	-9.76	833.69	756.17	97.52	
EW-6	12245	8894	800.86			781.2	749.3	51.56		EW-47R	12115	10175	795.10			775.1	735.1	60.00		EW-127	11220	10684	841.51	838.01	-3.50	823.58	757.18	84.33	
EW-7	12078	8892	803.43			780.5	747.5	55.93		EW-49R	11679	9680	808.16			785.4	734.7	73.46		EW-128	10948	10662	833.12	826.82	-6.30	808.60	756.50	76.62	
EW-8	11913	8884	802.16			784.8	747.8	54.36		EW-50	12396	10262	782.39			764.0	732.3	50.09		EW-129	10746	10537	808.18	806.02	-2.16	783.40	775.80	32.38	
EW-9	11720	8871	796.53			780.8	746.8	51.73		EW-51	12403	10433	782.25			783.5	731.8	50.45		EW-130	11023	10813	823.96	783.01	-0.95	760.70	729.70	54.26	
EW-10	11726	9245	815.40			788.2	747.2	68.20		EW-52	11472	9858	815.40			785.2	734.8	50.40		EW-131	10846	10873	829.21	823.15	-6.06	799.50	703.30	125.91	
EW-11	11577	8869	802.77			780.5	746.3	56.47		EW-62	10612	10224	782.60			767.6	733.0	49.60		EW-132	11060	10921	837.31	829.78	-7.53	808.20	707.40	129.91	
EW-12	11430	8851	800.09			783.6	746.5	53.59		EW-63R	10878	10166	800.25			777.0	731.0	69.25		EW-133	11332	10951	848.02	840.30	-7.72	828.02	710.02	138.00	
EW-12A	11334	8781	789.72			777.5	752.2	37.52		EW-64R	11009	10003	805.03			782.0	735.5	69.53		EW-134	11613	10940	848.86	841.73	-7.13	828.86	710.46	138.40	
EW-13	11427	9169	815.02			788.7	744.7	70.32		EW-65	10617	10052	787.01			770.9	733.6	53.41		EW-135	11894	10960	837.15	831.45	-5.70	817.15	707.15	130.00	
EW-14	11225	8837	798.48			780.0	744.8	53.68		EW-66	10605	9904	786.37			769.2	733.9	52.47		EW-136	12308	10981	797.44	793.67	-3.77	772.30	705.80	91.64	
EW-15	11054	8814	795.35			777.1	743.1	52.25		EW-67	10937	9886	802.61			780.9	734.7	68.31		EW-137R	12042	11209	830.05			806.10	702.10	127.95	
EW-16	11171	9075	812.26			787.5	745.0	67.26		EW-68RR	11144	9871	804.20			784.2	736.2	68.00		EW-138	11749	11218	843.35	837.04	-6.31	823.35	704.35	139.00	
EW-17	10865	8801	786.11			767.2	742.7	43.41		EW-69	10606	9725	788.24			767.1	734.3	53.94		EW-139	11471	11210	845.61	838.46	-7.15	825.61	707.41	138.20	
EW-18	10825	9077	805.47			779.8	741.8	63.67		EW-70	10606	9593	790.49			768.9	733.9	56.59		EW-140	11170	11194	833.47	828.58	-4.89	820.94	704.24	129.23	
EW-19	10662	8813	780.49			760.4	740.6	39.89		EW-71RR	10942	9585	800.10			779.8	736.6	63.50		EW-141	10896	11134	831.27	823.01	-8.26	801.60	705.80	125.47	
EW-20	10466	8823	775.56			753.9	739.9	35.66		EW-72R	11226	9548	804.80			784.8	730.3	74.50		EW-142	11264	11427	836.52	826.06	-10.46	807.80	701.90	134.62	
EW-21	10293	8794	767.04			749.3	740.0	27.04		EW-101	10731	11025	790.56	798.61	8.05	766.2	704.2	86.36		EW-142A	11287	11426	833.46			803.78	702.78	120.68	
EW-22	10281	8992	771.37			750.4	739.3	32.07		EW-102	10704	11327	777.90	786.25	8.36	755.2	700.2	77.69		EW-143R*	11561	11379	826.95			807.20	705.20	121.75	
EW-23	10253	9175	769.85			750.5	740.5	29.35		EW-103	10800	11628	770.78	778.11	7.33	746.6	698.6	72.18		EW-144R*	11855	11438	837.62			813.10	701.10	136.52	
EW-24	10446	9176	782.11			762.0	740.0	42.11		EW-104	11102	11640	771.08	777.82	6.74	746.2	702.2	68.88		EW-145*	12139	11391	820.80	830.35	9.55	796.02	699.42	121.38	
EW-25	10551	9011	789.17			770.0	741.2	47.97		EW-105	10975	11328	833.74	823.61	-10.13	796.8	701.1	131.94		EW-146	12338	11546	784.87			764.85	715.35	69.52	
EW-26	10580	9312	788.07			768.2	739.4	48.67		EW-106**										EW-147	12337	11775	784.55			764.54	714.54	70.01	
EW-27	10933	9293	807.51			783.8	741.8	65.71		EW-107	11300	10082	849.04			822.7	805.2	43.83		EW-148	12085	11592	826.23			806.25	701.25	124.98	
EW-28	11226	9357	813.31			789.0	744.5	68.81		EW-108	11498	10094	858.32			829.0	804.5	53.78		EW-149	11801	11733	784.08			764.10	709.10	74.98	
EW-29	11027	8473	785.68			746.9	697.9	67.78		EW-109	11700	10084	846.54			821.2	805.2	41.39		EW-150	11552	11720	778.74			756.70	704.70	74.04	
EW-30	10996	8272	753.44			737.1	711.1	42.34		EW-110	11801	10231	843.49			817.2	799.2	44.29		EW-151	11326	11635	779.64			756.60	702.60	77.04	
EW-31	10806	8302	748.39			732.5	704.5	43.89		EW-111A	11599	10232	854.40			825.3	793.3	55.12		EW-164	10959	11525	806.23	800.38	-5.85	789.49	740.39	65.84	
EW-32	10813	8517	748.55			736.8	705.8	42.75		EW-112	12200	11024	825.41	818.53	-6.88	782.3	703.3	122.11		EW-165	10701	11500	776.85	772.37	-4.48	763.48	698.78	78.07	
EW-33	10505	8312	745.33			728.4	701.4	43.93		EW-113	12328	11330	791.97	787.12	-4.85	758.0	710.0	81.97		EW-166	11010	11124	835.17	829.46	-5.71	815.17	707.07	128.10	
EW-34	10477	8539	749.78			732.0	710.0	39.78		EW-114	11400	10233	856.97			826.7	799.2	57.78		EW-167	10990	11456	813.58	810.71	-2.87	794.58	701.51	112.07	
EW-35	10295	8330	746.39			730.7	697.7	48.69		EW-115	11200	10234	845.77			818.63	799.13	46.64		AS**									
EW-36	10278	8516	748.78			729.8	696.6	52.18		EW-116**										A6**									
EW-37RR	11516	9500	810.77			786.3	736.3	74.47		EW-117	11150	10418	845.96			816.80	791.80	54.16		A8**									
EW-38R	11817	9511	802.90			782.9	741.9	61.00		EW-118	11373	10457	858.46			825.77	790.27	68.19		AS**									
EW-39R	12138	9512	798.20			778.2	737.6	60.60		EW-119	11611	10459	857.64			824.67	790.07	67.57		C2R	12159	11055	820.16			795.1	754.1	66.06	
EW-40	12423	9570	785.99			768.6	736.6	49.39		EW-120	11852	10418	843.77			815.02	791.52	52.25		* TEMPORARY EXTRACTION WELL									
EW-41	12392	9747	785.53			770.3	736.0	49.53		EW-121**										** HORIZONTAL WELL									
EW-42	12399	9925	780.53			765.6	734.6	45.93		EW-122	12276	10610	809.90	807.54	-2.36	795.04	770.54	39.36		Up Wind Reading									



EXTRACTION WELL DETAIL
NOT TO SCALE

RELEASE DATE: BY:

Project Review

NO. DATE: BY:

DESCRIPTION

REVISIONS

VEOLIA

ENVIRONMENTAL SERVICES

CQM, INC.

Engineering-Surveying-Material Testing

2679 Continental Drive

Green Bay, WI 54311

Current "As-Built" LFG System

Veolia ES Zion Landfill

Zion, Illinois

DRAWN BY: WBE

DATE: Feb. 2011

SCALE: 1" = 200'

DRAWING NO.

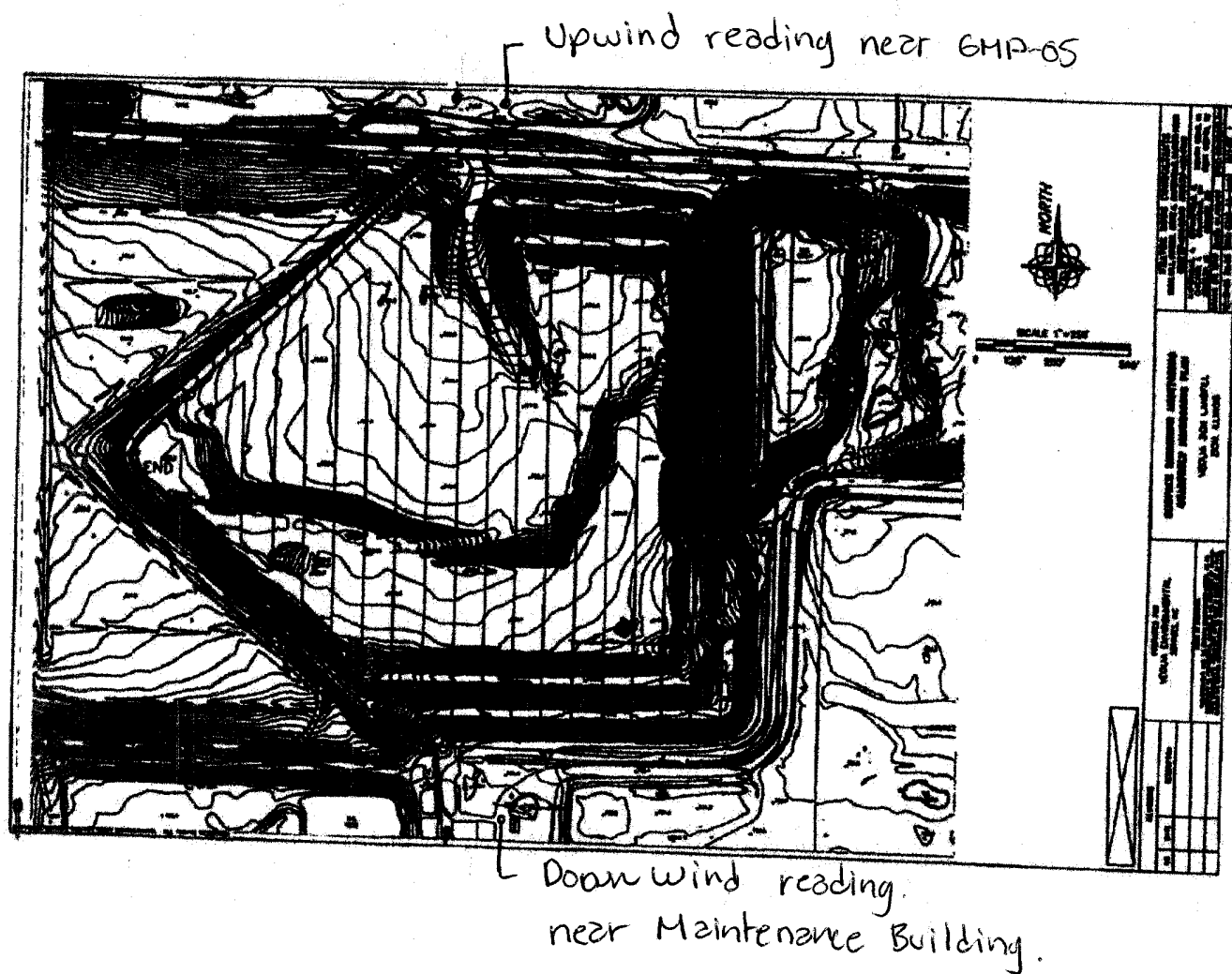
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Zion - Advanced Disposal 1st Qtr 2015 SEM

03/25/15

Technician: Mario Nunez

0 Exceedances



Mario Nunez